

Helitowcart - DESIGN CHANGE REQUEST-ORDER (ECR/ECO)	F20-01	Page 1 of 3
Reviewed & approved by:	/	2006 09 09

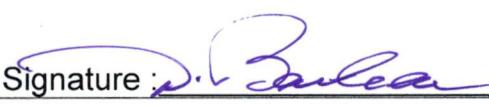
#### A- REQUEST

ECR :

ECO : 8

Nature of proposed change :	ADJUST TOL. FOR MACHINING OF PAD GENERAL TOLERANCES ON CARTRIDGE
Reason :	DIFFICULTY MANUFACTURING DUE TO MATERIAL VARIATION WHILE MACHINING.
Submitted By :	CHRISTIAN BEAUCHE, CNC SPEC (Supplier)
Date :	2016 05 17

#### B- IMPACT ANALYSIS

Product Manager	Signature :  /date : 2016 05 17
Operation Manager	Signature :  /date : 2016 05 17
Quality System Manager	Signature :  /date : 2016 05 17
Regulatory affairs Manager	Signature :  /date : 2016 05 17
Supplier A	Signature : _____ /date : _____
Supplier B	Signature : _____ /date : _____
Other	Signature : _____ /date : _____

## C- DECISION

Risk analysis	<p>No additional risk as we have the BP350 who already have a general of <math>\pm 0,030</math>" for .XX      It was a mistake from original eng. to have part <math>\pm 0,01</math>" for .XX, which is very tight for UHMW. (see attached)</p> <p>Signature: <u>D. Béchard</u> /date: <u>2006 04 26</u></p>
---------------	--

Decision	<p>Update general tolerances on the R44 pad drawing to have the same general needs as the ones for the BP350.</p> <p>Signature: <u>D. Béchard</u> /date: <u>2006 04 26</u></p>
----------	--

## D- ACTION PLAN

Action	Resp	Due date :	Verified by :
Update dwg 314-0001-01-C.td	Reward Béchard, Richer	20160622	DB
Update M&E from need to E	RBR	20160620	DB
Update DMR Banda	DB	20160922	DB
Update Seven	NB	20160922	DB

Effective date :

2016 09 22

Effective lot no :

FUTURE LOTS

AFTER THE LATEST ONE  
 MADE WITH PREVIOUS VERSION  
 LAST LOT <sup>UP TO</sup> AS: HTC-RC-160380-01

Helitowcart - DESIGN CHANGE REQUEST-ORDER (ECR/ECO)	F20-01	Page 3 of 3
Reviewed & approved by:	/	2006 09 09

#### E- VERIFICATION

Verified Elements :	By/ date :
Dwg 314-0001-01 has been updated as requested & correctly, along with MDL Rev E	DB 2016 09 22

#### F- VALIDATION

Validated Elements :	By/ date :
$\pm 0,005''$ impact negligible.	DB
No need for validation process	2016 09 22

#### G- CLOSURE

I confirm that the designated change has been performed successfully :

Signature : D. Boileau /date : 2016 09 22



## Master Document List

Helitowcart

**Robinson R44/R66 Helicopters  
Installation of BearPaw Model BP44**

**Report: HTC-MDL-BP-R44-1000 (Rev E)**

APPROVED BY:

DATE: 2016-05-30

Mirko Zgela  
Design Approval Representative DAR #310

*N. Barlowe 2016 06 22* Page 1/4



Revision	Revision Date	Revision of Entry	Entered by
E	2016-05-30	Changed manufacturing tolerances on BearPaw Pad	R. Berthelot
D	2013-08-28	Addition of Robinson R66 helicopter to the fleet eligibility list for BearPaw BP44 and product refinement.	R. Berthelot
C	2010 04 15	Addition of a rear U shaped clip in the streamline BearPaw Pad configuration	S. Bernier
B	2009 10 22	Introduction of new streamline BearPaw Pad configuration as alternate	S. Bernier
A	2006 09 07	Drawings are added to include the provision of shims during the installation.	N. Barbeau



## 1.0 MASTER DOCUMENTS

Document #	Title	Revision Status	Approval by	Date
AAC-CPL-BP-R44-1000	Compliance Plan - Robinson R44/R66 Helicopters -Installation of Bear Paw Model BP44	A	DAR 310	Aug 28, 2013
314-0011-00	BearPaw Model BP44 – Installation Instructions - R44/R66	E	DAR 310	Aug 9, 2013
ATS-0709-FTP-1000	R66 BearPaw Installation - Flight Test Plan/Report	NC	DAR 310	Aug 27, 2013
ATS-0709-TM-1000	Structural Substantiation – Addition of R66 Helicopter	NC	DAR 310	Aug 9, 2013
ATS-0709-EO-1000	Engineering Order – Installation of all BearPaw BP44 Configurations on R66	NC	DAR310	Aug 9, 2013
ATS-EO-BP-R44-1000	Engineering Order - BearPaw Streamline BP44	NC	DAR 310	Apr 15, 2010
HTC-TM-BP-R44-1000	Structural Substantiation - BearPaw Streamline BP44	NC	DAR 310	Oct 22, 2009
AAC-FTR-C-FBLO	Simple External Modification – Applicant's Flight Test Plan/Report	NC	DAR 310	Aug 4, 2006
AAC-STR-BP-R44-1000	Structural Substantiation – Helitowcart Inc. BearPaw Model BP44	NC	DAR 310	July 4, 2006

## 2.0 MASTER DRAWINGS

Drawings #	Title	Revision Status	Approval by	Date
112-0001-00	BearPaw – Assembly	F	DAR 310	Aug 9, 2013
314-0001-01	BearPaw – Pad	D	DAR 310	May 30, 2016
314-0002-15	BearPaw – Iceblade	B	DAR 310	Aug 9, 2013
314-0004-15	BearPaw – Iceblade Threaded Rod	B	DAR 310	Aug 9, 2013
314-0005-15	BearPaw – Iceblade Assembly	B	DAR 310	Aug 9, 2013
314-0006-15	BearPaw – U-Shaped Clip	C	DAR 310	Aug 9, 2013
314-0012-01	Filler Block 1/4"	B	DAR 310	Aug 9, 2013
314-0014-01	Filler Block 1/16"	B	DAR 310	Aug 9, 2013
314-0015-01	Filler Block 1/8"	B	DAR 310	Aug 9, 2013
314-0022-01	Filler Block Rear	B	DAR 310	Aug 9, 2013
314-0023-15	BearPaw – Low U-Shaped Clip	B	DAR 310	Aug 9, 2013



### 3.0 REFERENCE DOCUMENTS

Document #	Title	Revision Status	Approval by	Date
314-0008-01	Material Properties - UHMW TIVAR	A	N/A	May 24, 2006
314-0009-01	Ultra High Molecular Weight Polyethylene – Typical Properties	A	N/A	May 24, 2006
314-0017-05	Heat Shrink Specifications	A	N/A	Sept 6, 2006



## Master Document List Helitowcart

Robinson R44/R66 Helicopters  
Installation of BearPaw Model BP44

Report: HTC-MDL-BP-R44-1000 (Rev D)

APPROVED BY:

DATE:

2013-08-28

Mirko Zgela  
Design Approval Representative DAR #310

D. Barlean 2013 11 11

Page 1/4



Revision	Revision Date	Revision of Entry	Entered by
D	2013-08-28	Addition of Robinson R66 helicopter to the fleet eligibility list for BearPaw BP44 and product refinement.	R. Berthelot
C	2010 04 15	Addition of a rear U shaped clip in the streamline BearPaw Pad configuration	S. Bernier
B	2009 10 22	Introduction of new streamline BearPaw Pad configuration as alternate	S. Bernier
A	2006 09 07	Drawings are added to include the provision of shims during the installation.	N. Barbeau

## 1.0 MASTER DOCUMENTS

Document #	Title	Revision Status	Approval by	Date
AAC-CPL-BP-R44-1000	Compliance Plan - Robinson R44/R66 Helicopters -Installation of Bear Paw Model BP44	A	DAR 310	Aug 28, 2013
314-0011-00	BearPaw Model BP44 – Installation Instructions - R44/R66	E	DAR 310	Aug 9, 2013
ATS-0709-FTP-1000	R66 BearPaw Installation - Flight Test Plan/Report	NC	DAR 310	Aug 27, 2013
ATS-0709-TM-1000	Structural Substantiation – Addition of R66 Helicopter	NC	DAR 310	Aug 9, 2013
ATS-0709-EO-1000	Engineering Order – Installation of all BearPaw BP44 Configurations on R66	NC	DAR310	Aug 9, 2013
ATS-EO-BP-R44-1000	Engineering Order - BearPaw Streamline BP44	NC	DAR 310	Apr 15, 2010
HTC-TM-BP-R44-1000	Structural Substantiation - BearPaw Streamline BP44	NC	DAR 310	Oct 22, 2009
AAC-FTR-C-FBLO	Simple External Modification – Applicant's Flight Test Plan/Report	NC	DAR 310	Aug 4, 2006
AAC-STR-BP-R44-1000	Structural Substantiation – Helitowcart Inc. BearPaw Model BP44	NC	DAR 310	July 4, 2006

## 2.0 MASTER DRAWINGS

Drawings #	Title	Revision Status	Approval by	Date
112-0001-00	BearPaw – Assembly	F	DAR 310	Aug 9, 2013
314-0001-01	BearPaw – Pad	C	DAR 310	Aug 9, 2013
314-0002-15	BearPaw – Iceblade	B	DAR 310	Aug 9, 2013
314-0004-15	BearPaw – Iceblade Threaded Rod	B	DAR 310	Aug 9, 2013
314-0005-15	BearPaw – Iceblade Assembly	B	DAR 310	Aug 9, 2013
314-0006-15	BearPaw – U-Shaped Clip	C	DAR 310	Aug 9, 2013
314-0012-01	Filler Block 1/4"	B	DAR 310	Aug 9, 2013
314-0014-01	Filler Block 1/16"	B	DAR 310	Aug 9, 2013
314-0015-01	Filler Block 1/8"	B	DAR 310	Aug 9, 2013
314-0022-01	Filler Block Rear	B	DAR 310	Aug 9, 2013
314-0023-15	BearPaw – Low U-Shaped Clip	B	DAR 310	Aug 9, 2013

■ = Les documents  
sont confidentiels  
à TIERS & TC

On a pas les copies



### 3.0 REFERENCE DOCUMENTS

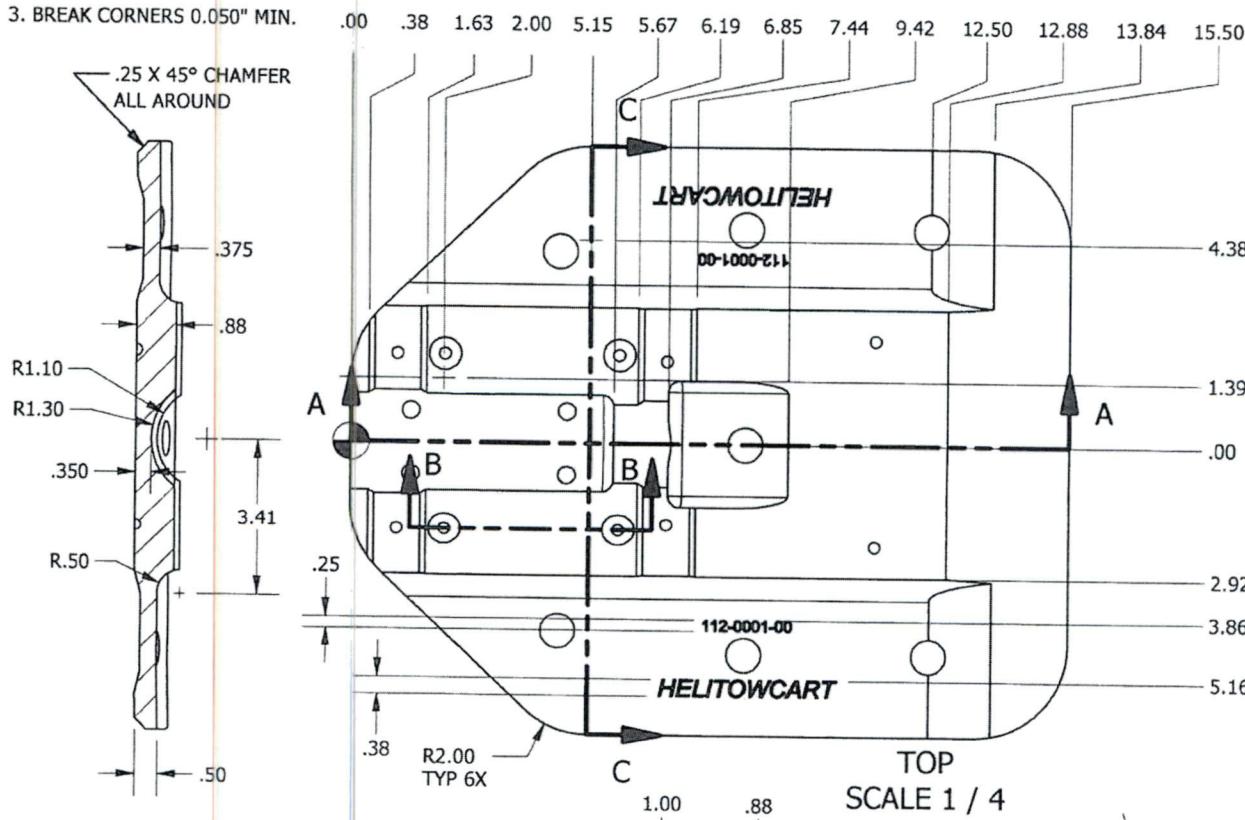
Document #	Title	Revision Status	Approval by	Date
314-0008-01	Material Properties - UHMW TIVAR	A	N/A	May 24, 2006
314-0009-01	Ultra High Molecular Weight Polyethylene – Typical Properties	A	N/A	May 24, 2006
314-0017-05	Heat Shrink Specifications	A	N/A	Sept 6, 2006

## NOTES:

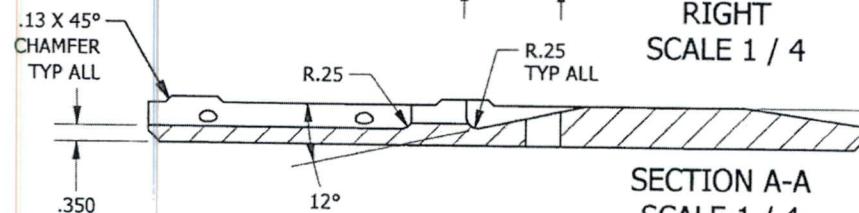
1. INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.5M 1994,  
DIMENSIONS AND TOLERANCING

2. REMOVE ALL BURRS AND SHARP EDGES 0.020" MAX.

3. BREAK CORNERS 0.050" MIN.



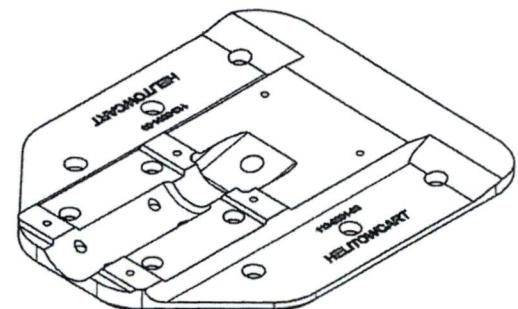
SECTION C-C  
SCALE 1 / 4



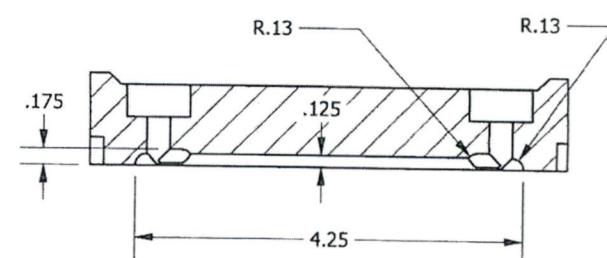
SECTION A-A  
SCALE 1 / 4

REVISION					
REV	DESCRIPTION	REVISED BY	APPROVED	DATE	
A	ISSUE FOR PRODUCTION	G. LAPOINTE	M. ZGELA	2006-04-24	
B	ADDITION OF STREAMLINE PAD CONFIGURATION	S. BERNIER	M. ZGELA	2009-10-22	
C	MODIFIED ENGRAVING, CHANGED ZONES FOR DAMAGE TOLERANCE	R.B.R.	M. ZGELA	2013-08-09	
D	CHANGED MANUFACTURING TOLERANCES	R.B.R.	M. ZGELA	2016-05-30	

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	SPECIFICATION	SIZE
1	1	314-0001-01	BEARPAW - PAD	UHMW	---	1" THK.



ISO  
SCALE 1 / 6



SECTION B-B  
SCALE 1 / 2

THIS DRAWING IS PROPERTY OF  
**HELITOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY: G. LAPOINTE DATE: 2006/04/24

CHECKED BY: DATE:

APPROVED TCCA BY: M. ZGELA DATE: 2006/04/24

IF NOT SPECIFIED  
GENERAL TOLERANCE

UNITS: INCH

SIZE: A

ANG. ± 1°

SCALE: N/A

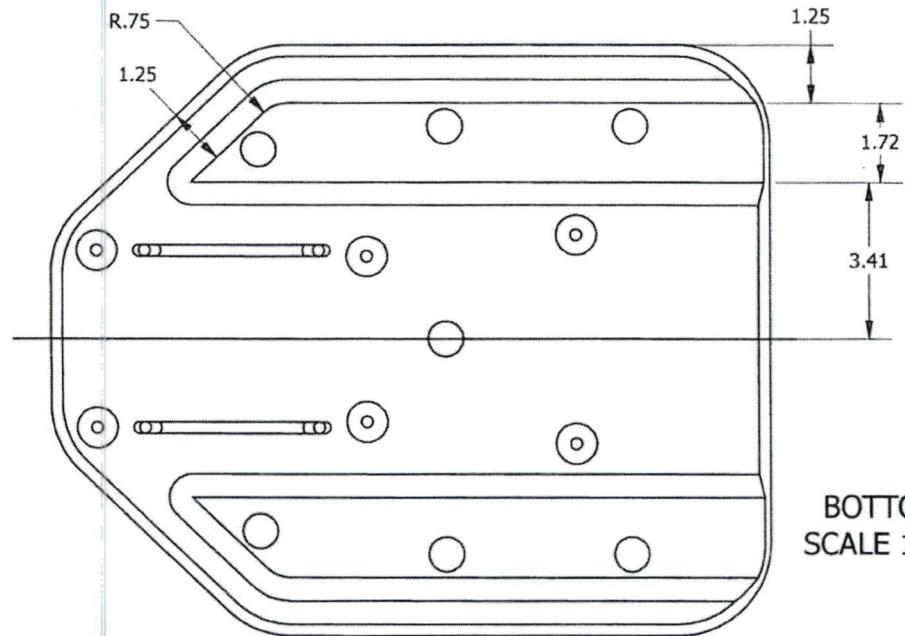
**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
www.helitowcart.com

DEFINITION:	BEARPAW PAD	REV
DRAWING NUMBER:	314-0001-01	D

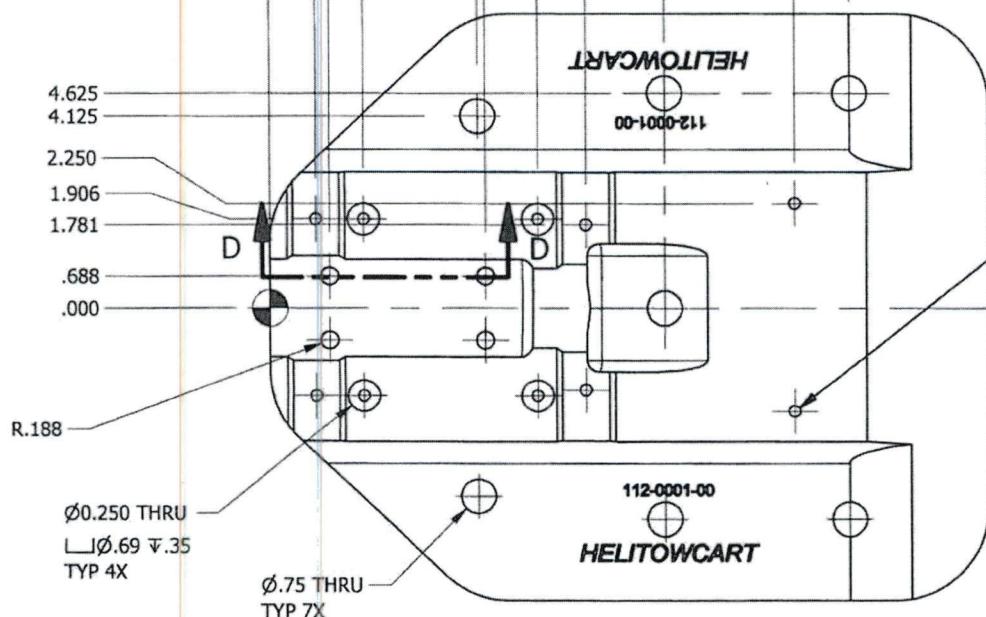
1 OF 3

*D. Barleau 2016 06 22*

314-0001-01 rev. D



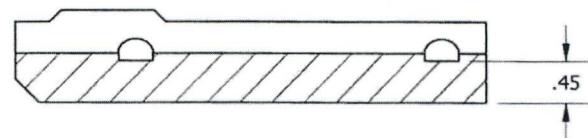
BOTTOM  
SCALE 1 / 4



TOP  
SCALE 1 / 4

Ø.250 THRU  
L Ø.875 T.300  
TYP 6X

REAR  
SCALE 1 / 4



SECTION D-D  
SCALE 1 / 2

THIS DRAWING IS PROPERTY OF  
HEЛИTOWCART AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY:  
G. LAPointe

CHECKED BY:  
M. ZGELA

APPROVED TCCA BY:  
M. ZGELA

IF NOT SPECIFIED  
GENERAL TOLERANCE

X.XX ± 0.030°  
X.XXX ± 0.010°  
ANG. ± 1°

DATE:  
2006/04/24

DATE:  
2006/04/24

DATE:  
2006/04/24

UNITS:  
INCH

SIZE:  
A

SCALE:  
N/A

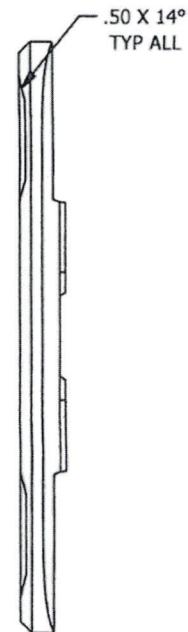
**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
www.helitowcart.com

DEFINITION:  
BEARPAW  
PAD

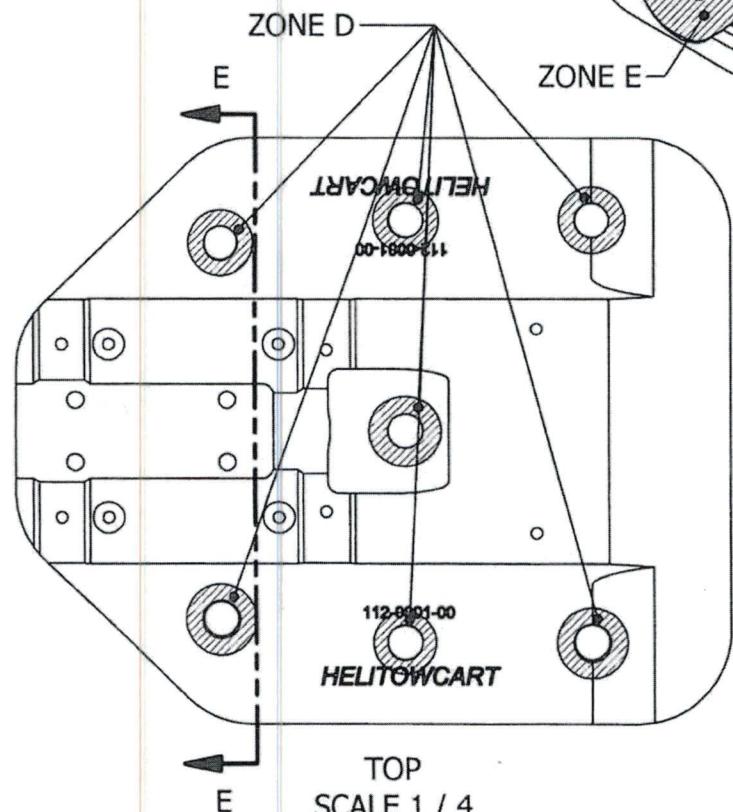
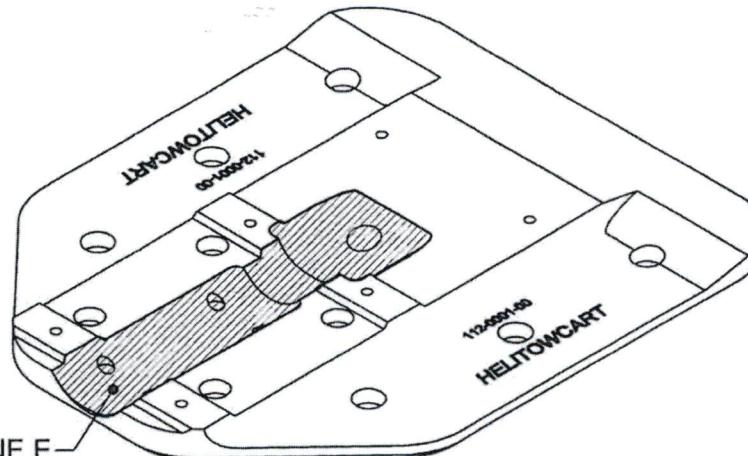
DRAWING NUMBER:  
314-0001-01

REV  
D

SHEET:  
2 OF 3

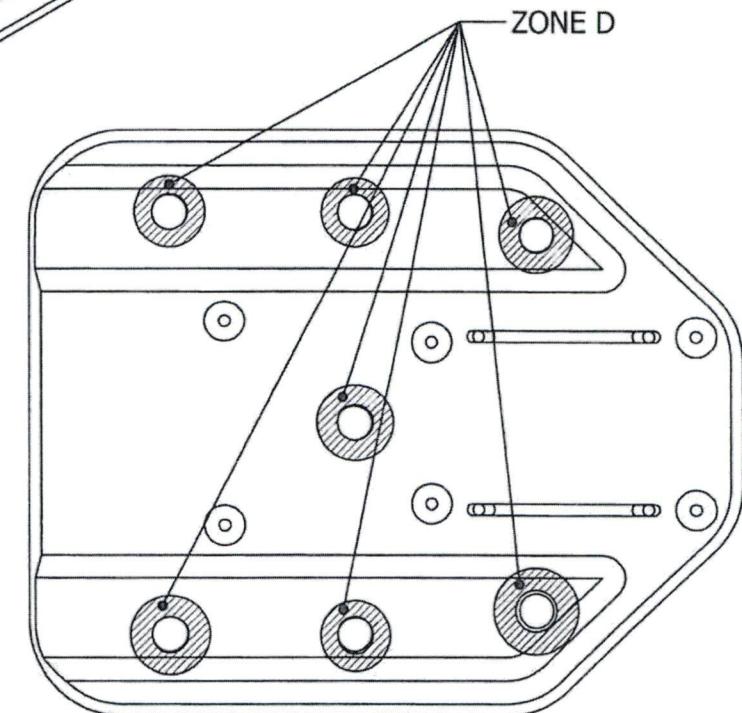
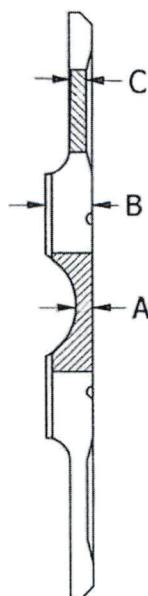


ISO  
SCALE 1 / 4



TOP  
SCALE 1 / 4

SECTION E-E  
SCALE 1 / 4



THIS DRAWING IS PROPERTY OF  
**HEЛИTOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY: G. LAPOINTE DATE: 2006/04/24

CHECKED BY: DATE:

APPROVED TCCA BY: M. ZGELA DATE: 2006/04/24

IF NOT SPECIFIED  
GENERAL TOLERANCE:

X.XX ± 0.030"  
X.XXX ± 0.010"  
ANG. ± 1°

UNITS: INCH  
SIZE A  
SCALE: N/A

**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
www.helitowcart.com

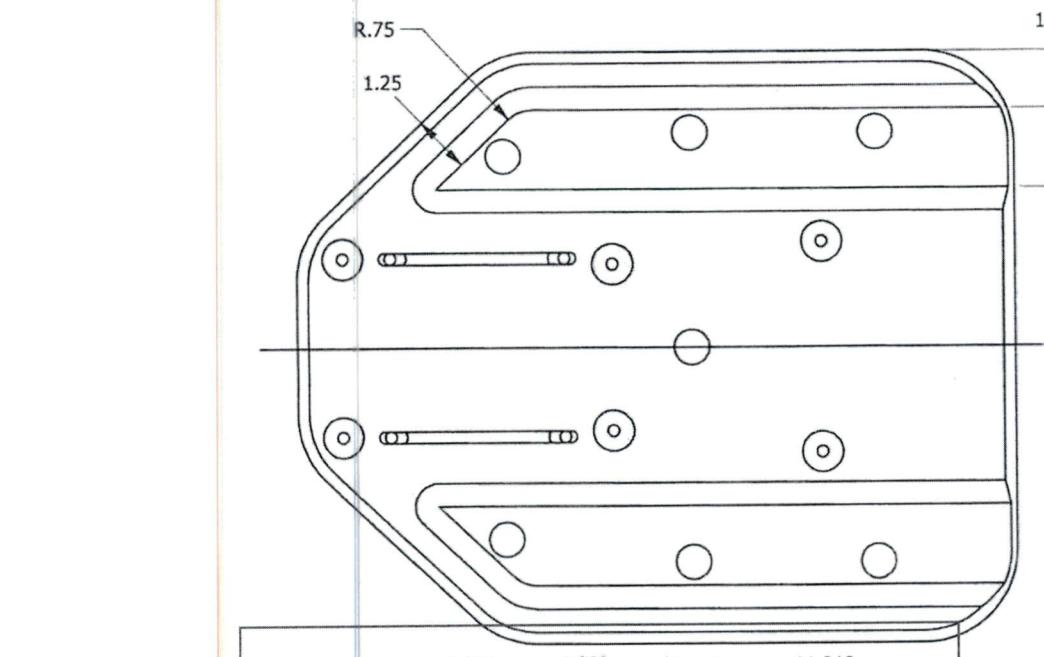
BEARPAW  
PAD

DRAWING NUMBER:  
314-0001-01

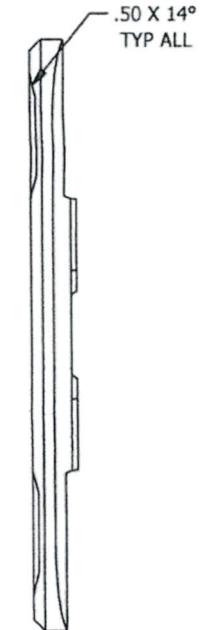
REV  
D

SHEET:  
3 OF 3

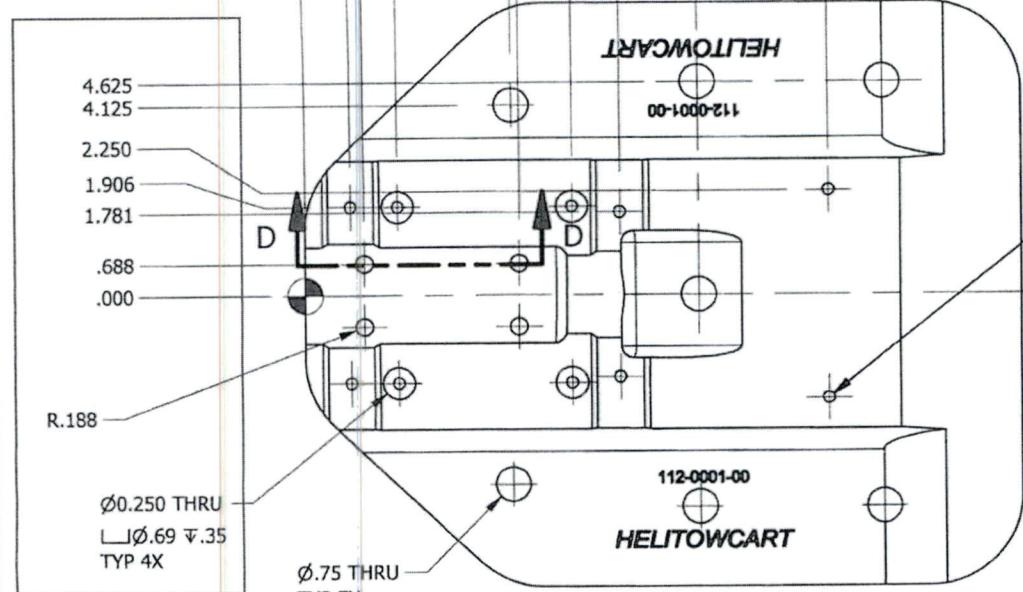




BOTTOM  
SCALE 1 / 4



REAR  
SCALE 1 / 4



TOP  
SCALE 1 / 4

— Ø.250 THRU  
└ Ø.875 ← .300  
TYP 6X

THIS DRAWING IS PROPERTY OF  
**HELIOTWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION

DRAFTED BY:  
G. LAPONT

CHECKED BY:

APPROVED TCCA  
M. ZCELA

M. ZGELA

GENERAL TO

X.XXX ±  
ANG. ±

11. 11. 11.

SECTION D-D  
SCALE 1 / 2

**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
[www.helitowcart.com](http://www.helitowcart.com)

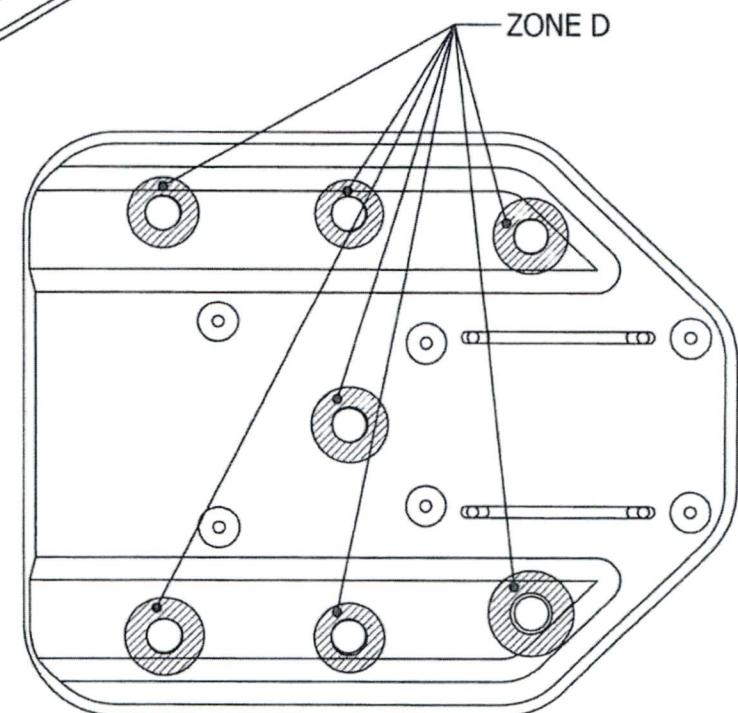
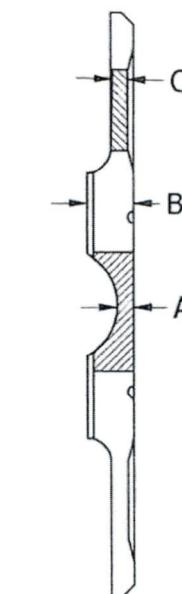
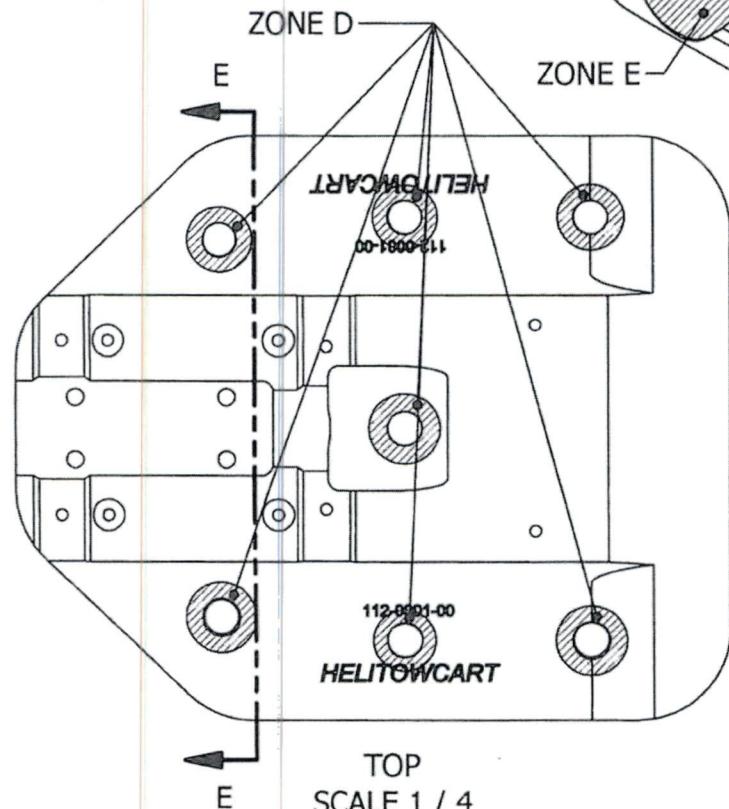
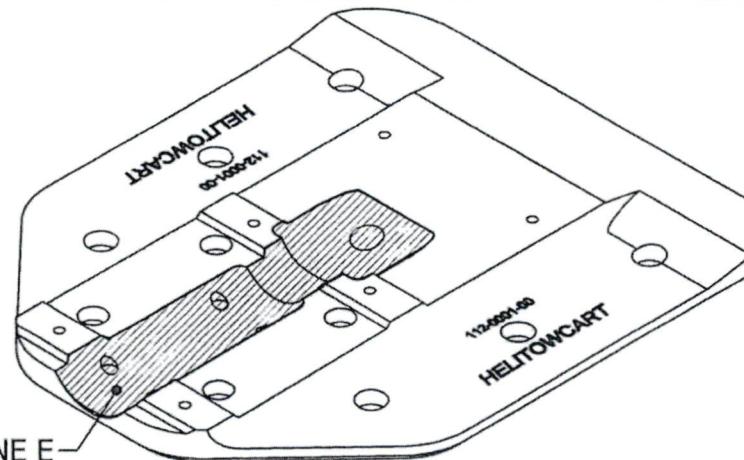
BEARPAW  
PAD

MBER:

REV  
D

SHEET:  
2 OF 3

ISO  
SCALE 1 / 4



THIS DRAWING IS PROPERTY OF  
**HELTOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY: **G. LAPOINTE** DATE: 2006/04/24

CHECKED BY: DATE:

APPROVED TCCA BY: **M. ZGELA** DATE: 2006/04/24

IF NOT SPECIFIED  
GENERAL TOLERANCE:

UNITS: INCH  
SIZE **A**  
SCALE: N/A

**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
[www.helitowcart.com](http://www.helitowcart.com)

DEFINITION:  
BEARPAW  
PAD

DRAWING NUMBER: 314-0001-01 REV D

SHEET: 3 OF 3

**NOTES:**

**1. INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.5M 1994,  
DIMENSIONS AND TOLERANCING**

**2. REMOVE ALL BURRS AND SHARP EDGES 0.020" MAX.**

**3. BREAK CORNERS 0.050" MIN.**

△ .25 X 45° CHAMFER  
ALL AROUND

→ .38

R1.10 —

.35

R.50

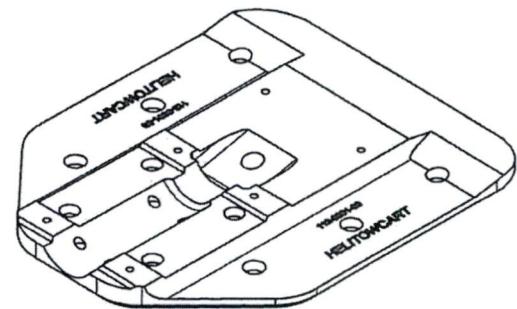
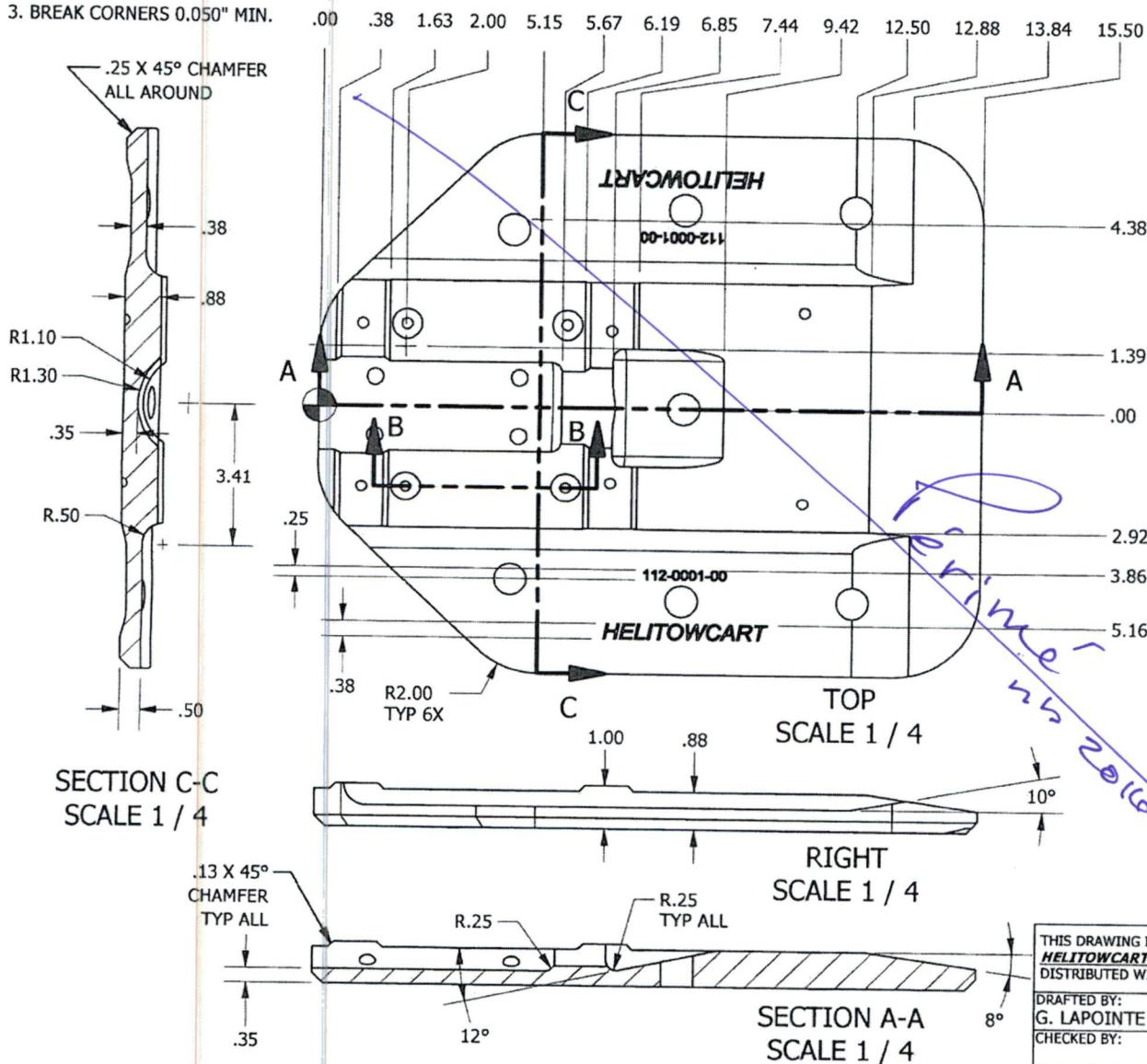
11

→ ← .50

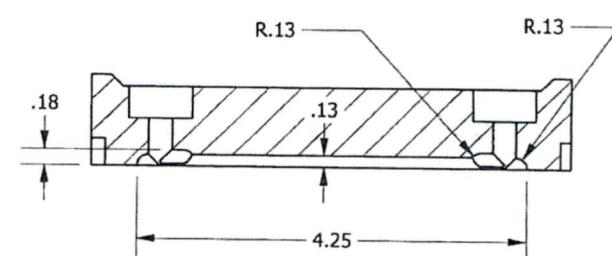
## SECTION C-C

.13

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	SPECIFIC	SIZE
1	1	314-01-01	BEARPAW - PAD	UHMW	---	1" THK.



ISO  
SCALE 1 / 6



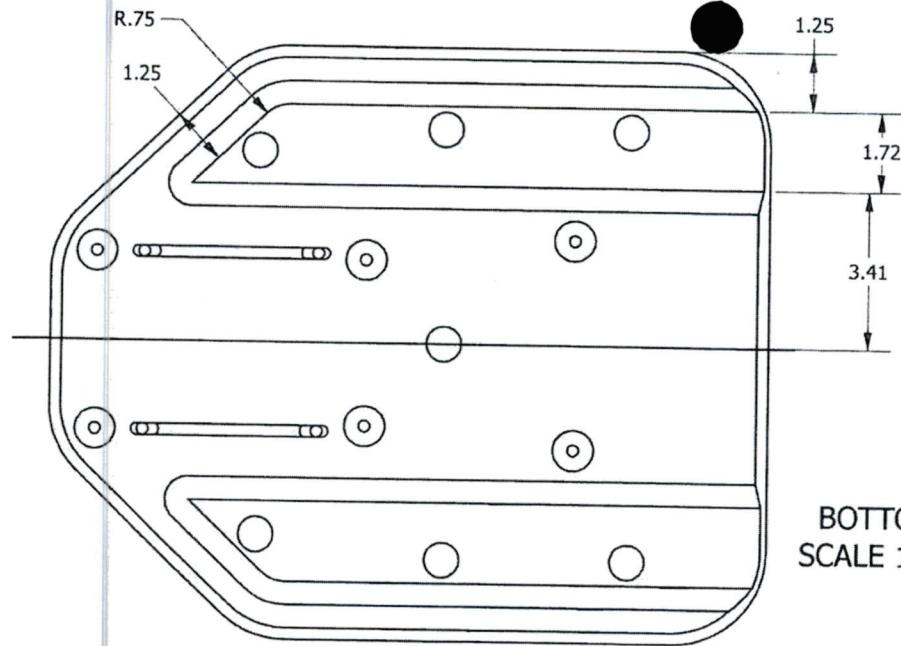
SECTION B-B  
SCALE 1 / 2

THIS DRAWING IS PROPERTY OF <u>HELIOWCART</u> AND MAY NOT BE COPIED OR DISTRIBUTED WITHOUT AUTHORIZATION.	
DRAFTED BY: <u>G. LAPOINTE</u>	DATE: 2006-04-24
CHECKED BY: <u></u>	DATE: <u></u>
APPROVED TCCA BY: <u>M. ZGELA</u>	DATE: 2006-04-24
IF NOT SPECIFIED GENERAL TOLERANCE	UNITS: INCH
1/X $\pm$ 1/32 X.XX $\pm$ 0.010" X.XXX $\pm$ 0.005" ANG. $\pm$ 1'	SIZE <u>A</u> SCALE: N/A

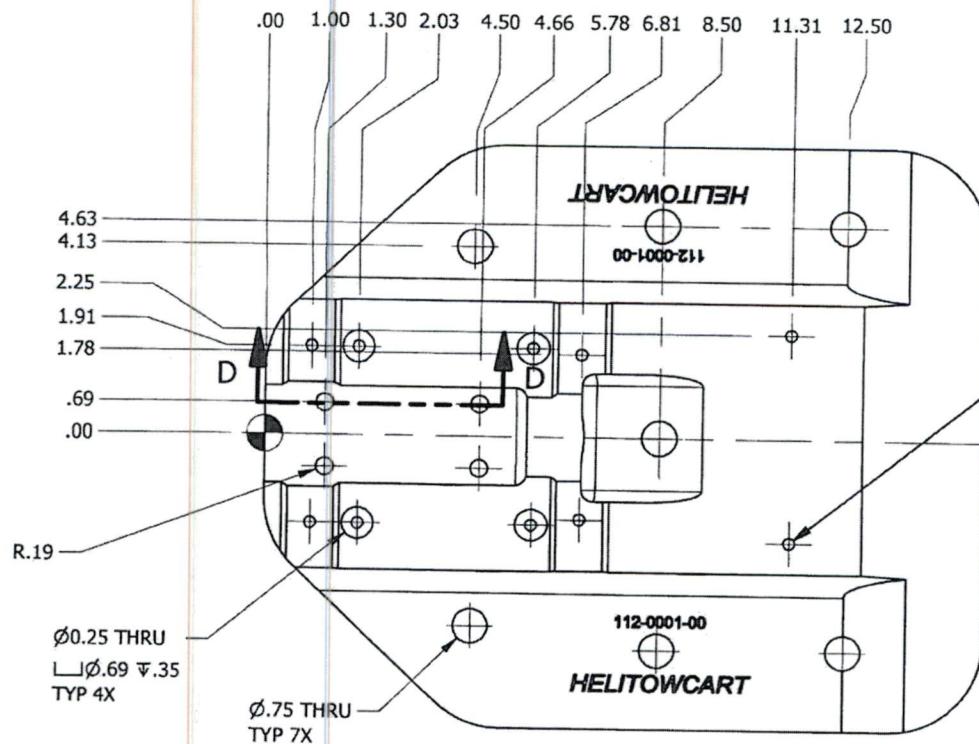
**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
[www.helitowcart.com](http://www.helitowcart.com)

BEARPAW

REV  
C  
SHEET: 1 OF 3



BOTTOM  
SCALE 1 / 4

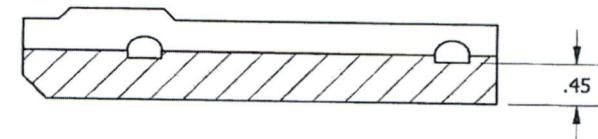


TOP  
SCALE 1 / 4

Ø.25 THRU  
└ Ø.88 V .30  
TYP 6X

REAR  
SCALE 1 / 4

SECTION D-D  
SCALE 1 / 2



THIS DRAWING IS PROPERTY OF  
**HELI TOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY:  
**G. LAPOINTE**

CHECKED BY:

APPROVED TCCA BY  
**M. ZGELA**

IF NOT SPECIFIED  
GENERAL TOLERANCE

DATE:  
2006-04-24

DATE:

DATE:  
2006-04-24

UNITS:  
INCH

**Helitowcart (Vanair inc.)**  
St-Nicolas, Levis, Qc, Canada  
www.helitowcart.com

DEFINITION:  
BEARPAW  
PAD

DRAWING NUMBER:  
**314-0001-01**

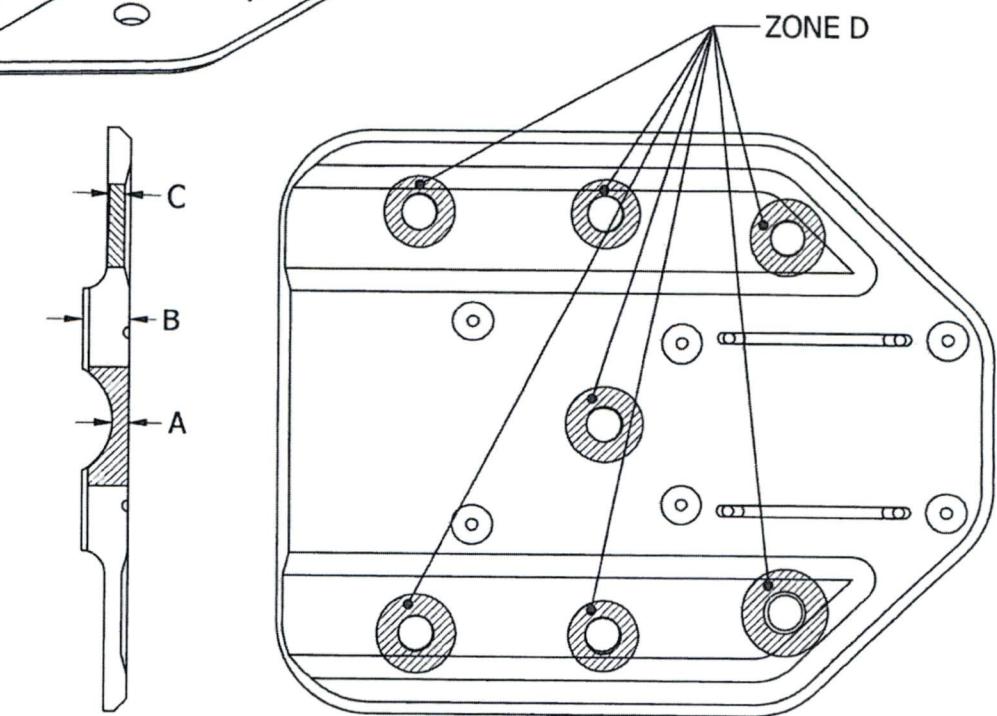
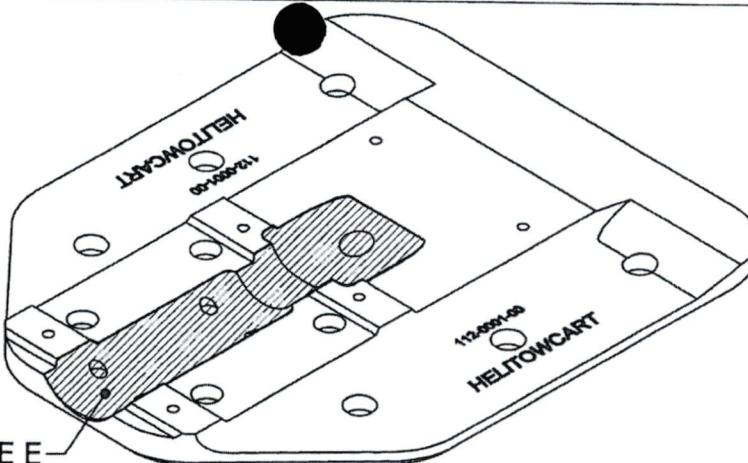
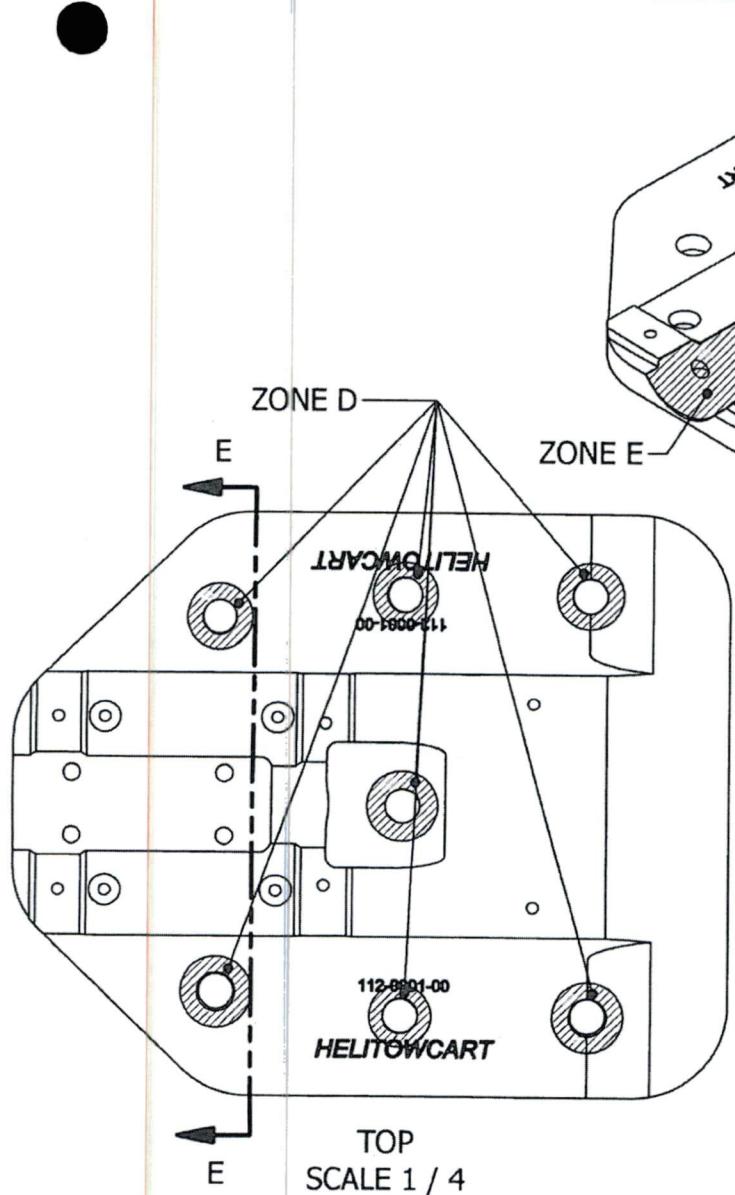
REV  
C

1/X    ± 1/32  
X.XX    ± 0.010"  
X.XXX    ± 0.005"  
ANG.    ± 1°

SIZE:  
**A**

SCALE:  
N/A

SHEET:  
**2 OF 3**



THIS DRAWING IS PROPERTY OF  
**HEЛИTOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY: DATE:

G. LAPointe 2006-04-24

CHECKED BY: DATE:

M. ZGELA 2006-04-24

APPROVED TCCA BY: DATE:

M. ZGELA 2006-04-24

IF NOT SPECIFIED  
GENERAL TOLERANCE

UNITS:  
INCH

SIZE:

A

ANG. ± 1°

SCALE:

N/A

**Helitowcart (Vanair inc.)**  
St-Nicolas, Levis, Qc, Canada  
[www.helitowcart.com](http://www.helitowcart.com)

DEFINITION:

BEARPAW  
PAD

DRAWING NUMBER:

314-0001-01

REV

C

SHEET:

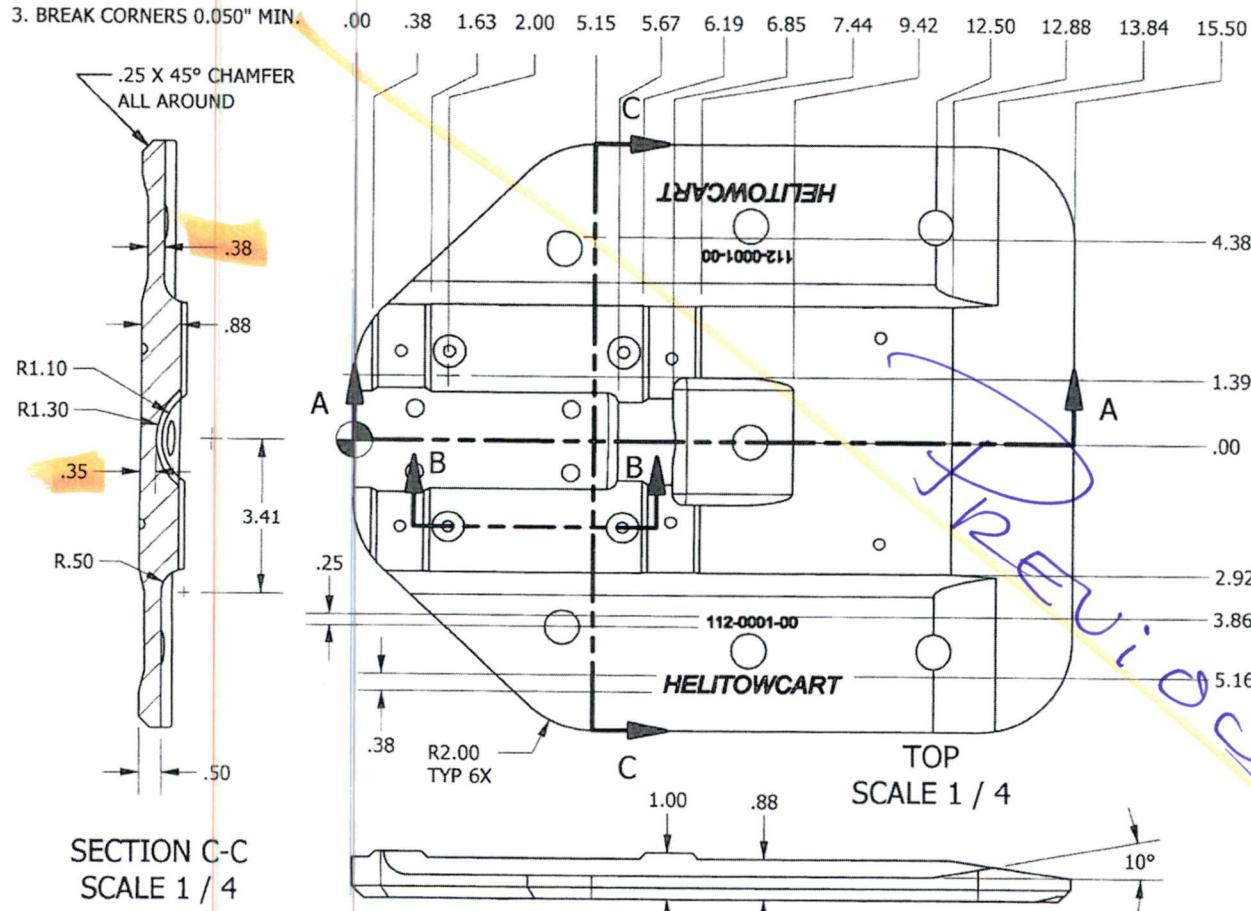
3 OF 3

## NOTES:

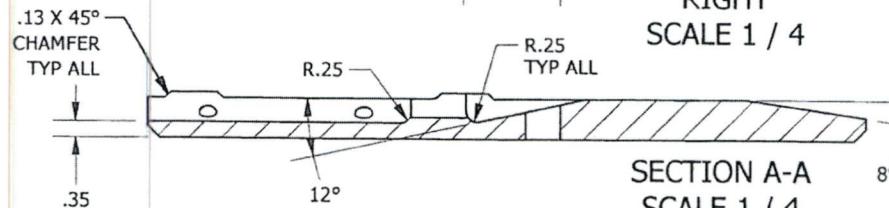
1. INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.5M 1994,  
DIMENSIONS AND TOLERANCING

2. REMOVE ALL BURRS AND SHARP EDGES 0.020" MAX.

3. BREAK CORNERS 0.050" MIN.



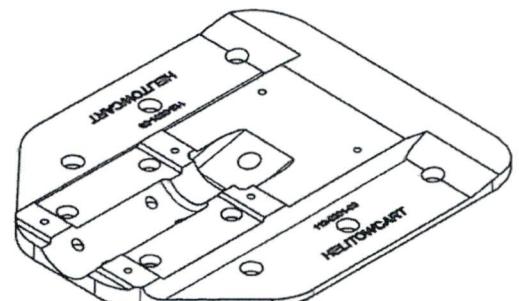
SECTION C-C  
SCALE 1 / 4



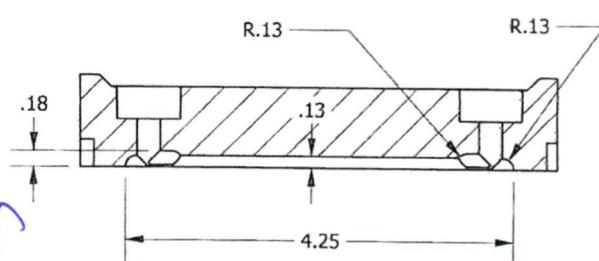
SECTION A-A  
SCALE 1 / 4

REVISION					
REV	DESCRIPTION	REVISED BY	APPROVED	DATE	
A	ISSUE FOR PRODUCTION	G. LAPOINTE	M. ZGELA	2006-04-24	
B	ADDITION OF STREAMLINE PAD CONFIGURATION	S. BERNIER	M. ZGELA	2009-10-22	
C	MODIFIED ENGRAVING, CHANGED ZONES FOR DAMAGE TOLERANCE	R.B.R.	M. ZGELA	2013-08-09	

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	SPECIFICATION	SIZE
1	1	314-0001-01	BEARPAW - PAD	UHMW	---	1" THK.



ISO  
SCALE 1 / 6



SECTION B-B  
SCALE 1 / 2

THIS DRAWING IS PROPERTY OF  
**HEЛИTOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY:  
G. LAPOINTE

DATE:  
2006-04-24

CHECKED BY:  
M. ZGELA

DATE:  
2006-04-24

APPROVED TCCA BY:  
M. ZGELA

DATE:  
2006-04-24

IF NOT SPECIFIED  
GENERAL TOLERANCE

UNITS:  
INCH

1/X ± 1/32  
X.XX ± 0.010"  
X.XXX ± 0.005"  
ANG. ± 1°

SIZE:  
A  
SCALE:  
N/A

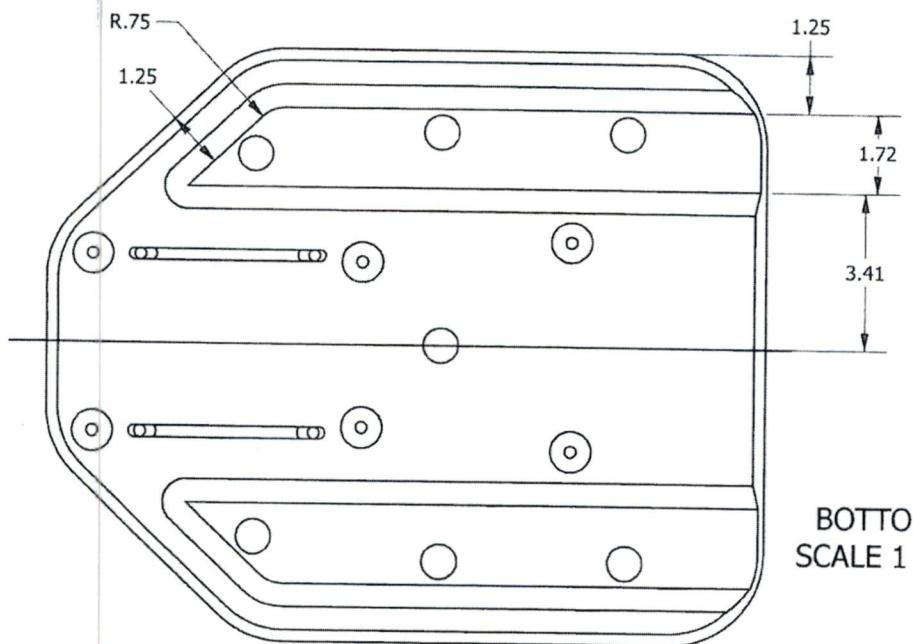
**Helitowcart**  
St-Nicolas, Lévis  
www.helitowcart.com

DEFINITION:  
BEARPAW PAD

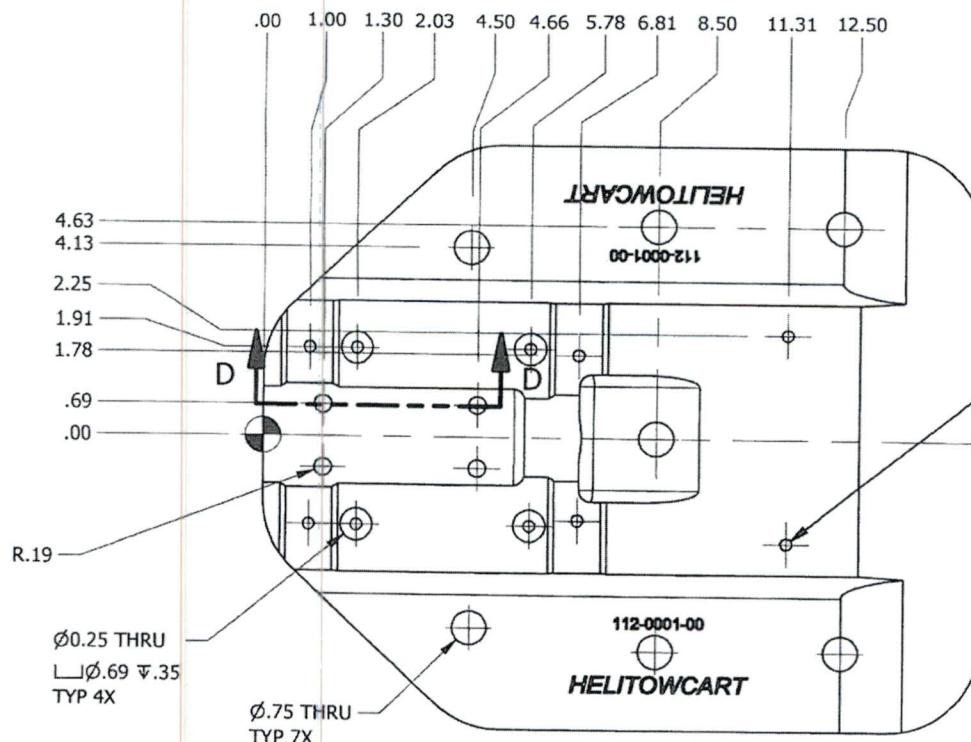
DRAWING NUMBER:  
314-0001-01

Previous

C  
1 OF 3



BOTTOM  
SCALE 1 / 4

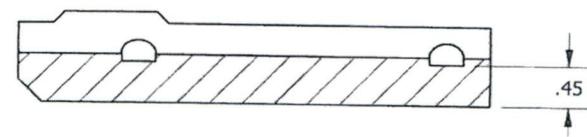


TOP  
SCALE 1 / 4

Ø.25 THRU  
L Ø.88 V.30  
TYP 6X

REAR  
SCALE 1 / 4

SECTION D-D  
SCALE 1 / 2



THIS DRAWING IS PROPERTY OF  
**HELITOWCART** AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY:  
G. LAPOINTE

DATE:  
2006-04-24

CHECKED BY:

DATE:

APPROVED TCCA BY:  
M. ZGELA

DATE:  
2006-04-24

IF NOT SPECIFIED  
GENERAL TOLERANCE

UNITS:  
INCH

1/X     $\pm$  1/32  
X.XX     $\pm$  0.010"  
X.XXX     $\pm$  0.005"  
ANG.     $\pm$  1'

SIZE:  
A  
SCALE:  
N/A

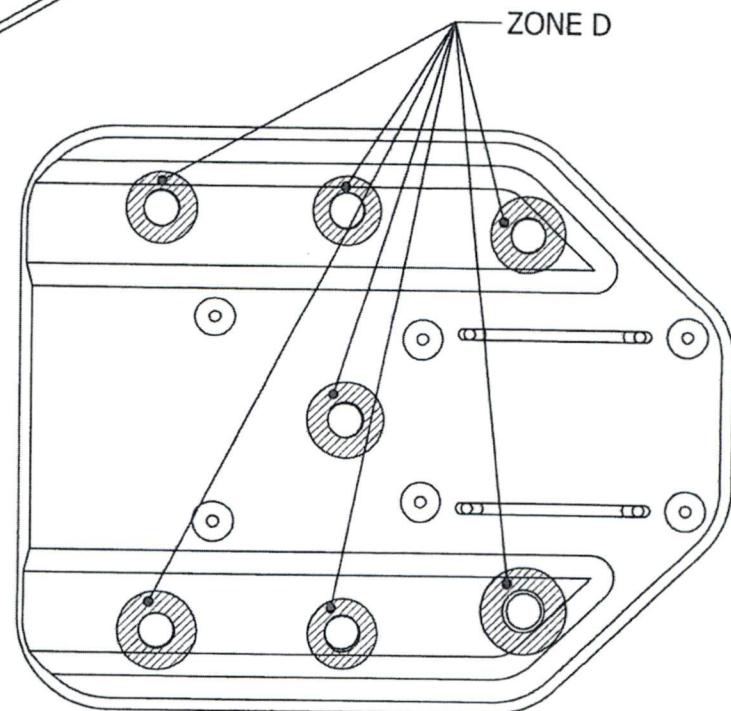
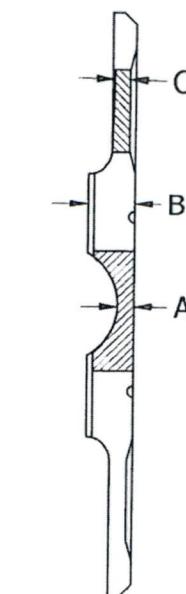
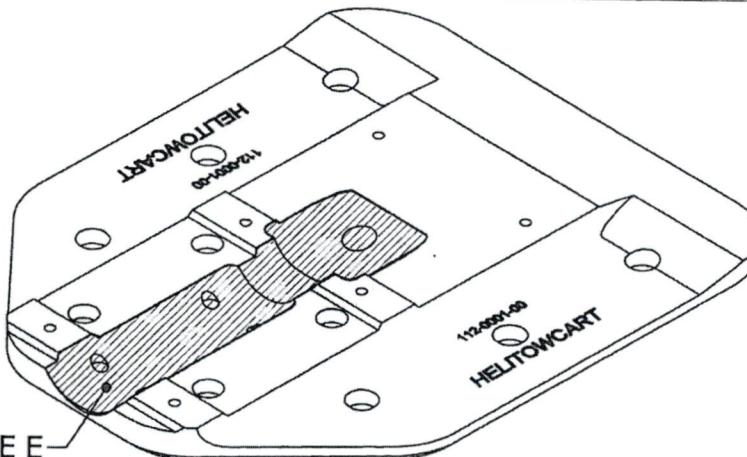
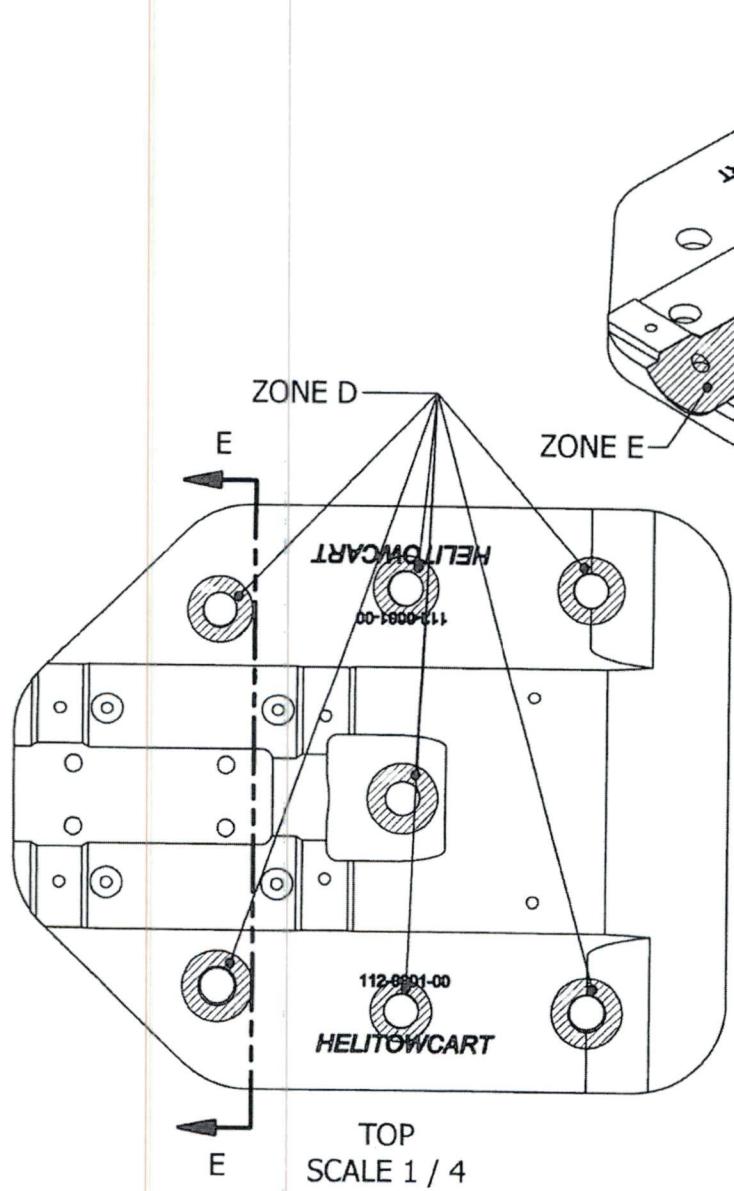
**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
www.helitowcart.com

DEFINITION:  
BEARPAW  
PAD

DRAWING NUMBER:  
314-0001-01

REV  
C

SHEET:  
2 OF 3



THIS DRAWING IS PROPERTY OF  
HEЛИТОУКАРТ AND MAY NOT BE COPIED OR  
DISTRIBUTED WITHOUT AUTHORIZATION.

DRAFTED BY: DATE:  
G. LAPointe 2006-04-24

CHECKED BY: DATE:

APPROVED TCCA BY: DATE:  
M. ZGELA 2006-04-24

IF NOT SPECIFIED  
GENERAL TOLERANCE

UNITS:  
INCH

SIZE:  
A

SCALE:  
N/A

**Helitowcart** (Vanair inc.)  
St-Nicolas, Levis, Qc, Canada  
www.helitowcart.com

DEFINITION:  
BEARPAW  
PAD

DRAWING NUMBER:  
314-0001-01

REV  
C

SHEET:  
3 OF 3

Fournisseur : *Eric Spec*Contact Responsable : *CHRISTIAN L'EXAILLET*

Emetteur : Nathalie Barbeau, Quality Syst. Mngr, Helitowcart.

Date : *2008 09 04**(A)**Actual 0.150"**Accepted  
par dérogation  
N Barbeau  
2016 04 14**(B) LOST THICKNESS AT REAR TIP  
DUE TO MATERIAL CURVING WHEN  
RELEASED FROM MACHINING BRACES.  
ONLY AT  
REAR EDGE**Dessin**Dwg: 2/40**Qty: 1/40**OK/accept Dwg**0.03" THINNESS  
2 1/2" = 0.75mm*

Autorisation de Helitowcart :

*MB. 2016 04 14*

Il est obligatoire d'obtenir une autorisation de Helitowcart pour toute action envisagée en regard à :

- Un écart de paramètres de production vs les spécifications.
- Un changement de fournisseur de matière première ou de type de matière première,
- Un changement de méthodes de fabrication, et/ou
- La sous-traitance d'activités de réalisation de la commande qui vous est donnée

Prendre note : Transport Canada se réserve le droit de visiter vos installations relativement à ce produit.

Nature de la demande :

Instructions &amp; Autorisation de Helitowcart :

**Inspections à la sortie:**

Il est obligatoire d'effectuer un contrôle à la sortie de production selon l'instruction suivante :

Nom du produit: <i>BEARPAW PAD B24</i>	Numéro de pièce: <i>314-0001-01</i>	Rev: <i>C</i>
No. Lot (si applicable): <i>LN-1600316-01</i>	Numéro de dessin : <i>same</i>	Quantité : <i>40</i>
Paramètres à inspecter :	Échantillon	Approbation oui/non
1) Type de matériel conforme	1/lot	
2) Conformité des dimensions	10% pièces	
3) Présence de toutes les dépressions et ouvertures	10% pièces	
4) Absence de bavures	10% pièces	
5) Absence de contamination(ex rouille sur acier inox.)	10% pièces	
Date de l'inspection :	Quantité Relâchée :	
Énoncé de conformité : <i>Le produit nommé ci-haut a été fabriqué selon les spécifications et instructions émises par Helitowcart :</i>		
Nom et signature de l'inspecteur : (s.v.p. lettres moulées)		

\*\*Remplir les sections ombragées.

\*\*\*Insérer ce formulaire dûment complété dans l'emballage avec le bon d'expédition.

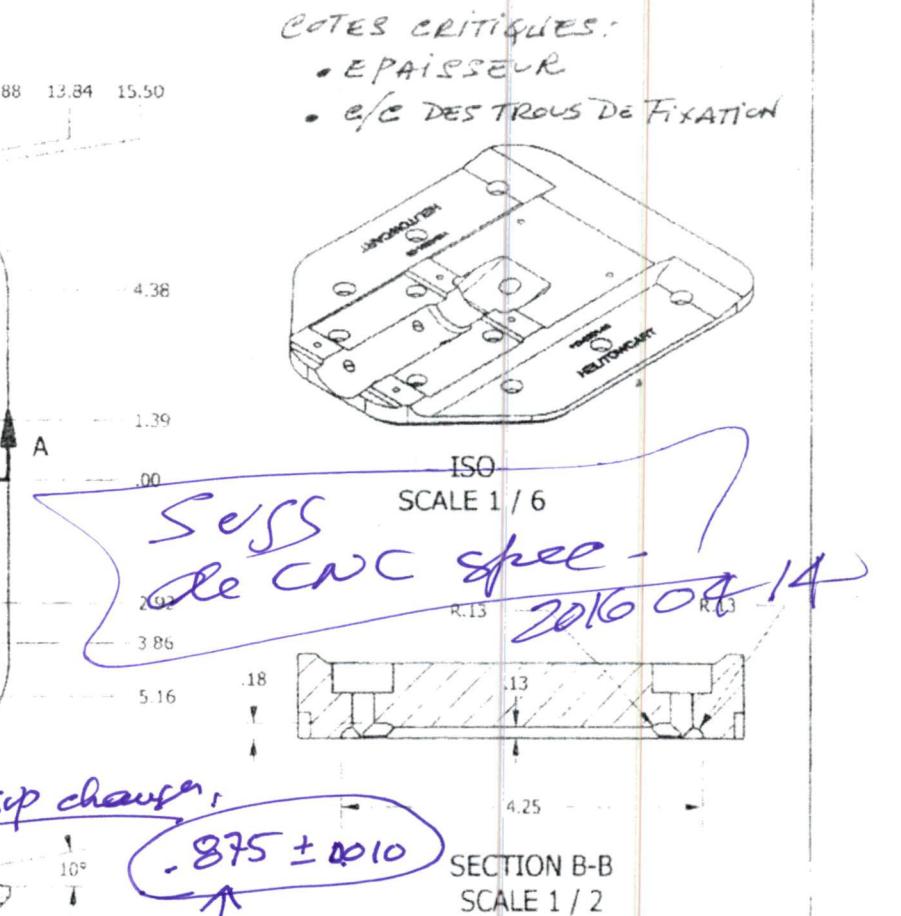
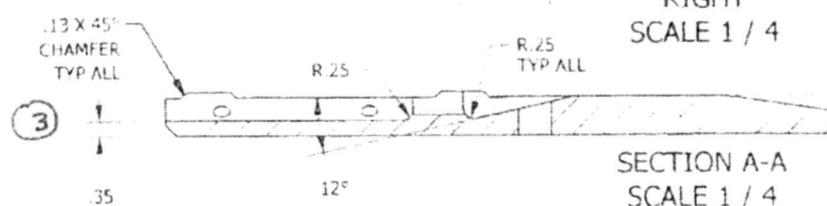
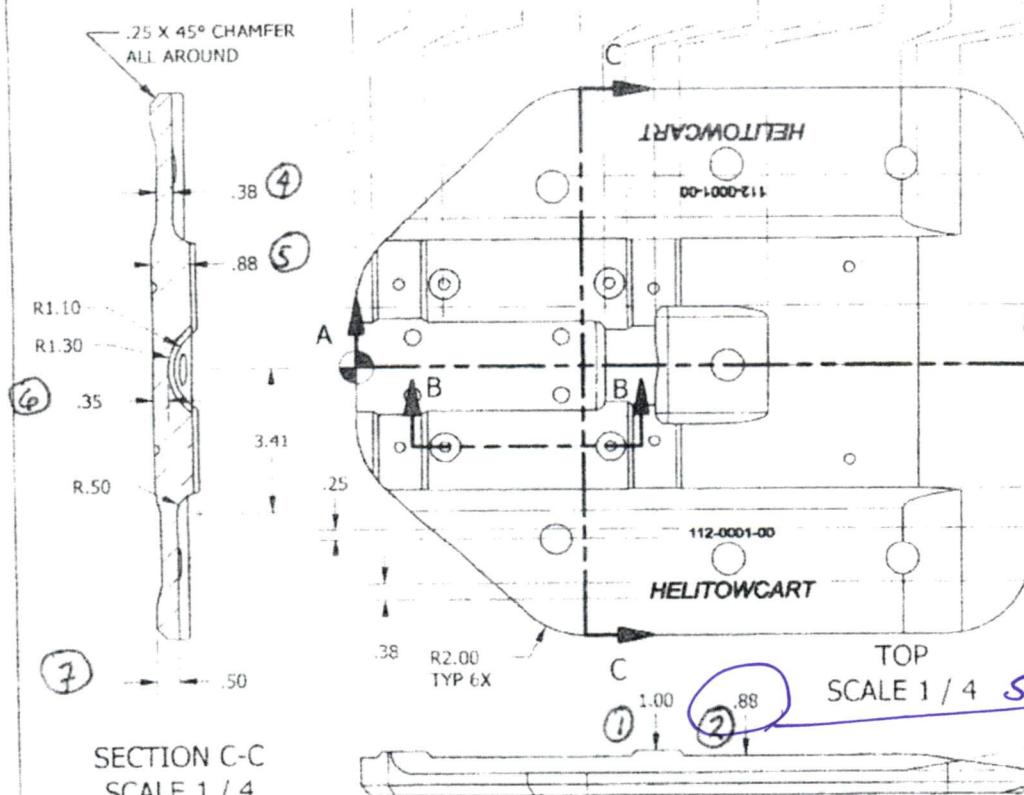
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	SPECIFICATION	SIZE
1	1	314-0001-01	BEARPAW PAD	UHMW	---	1" THK.

## Notes

1. INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.5M 1994,  
DIMENSIONS AND TOLERANCING

2 REMOVE ALL BURRS AND SHARP EDGES 0.020" MAX

3. BREAK CORNERS 0.050" MIN. .00 .38 1.63 2.00 5.15 5.67 6.19 6.85 7.44 9.42 12.50 12.88 13.84 15.50



THIS DRAWING IS PROPERTY OF  
HELIOTROPE ART AND MAY NOT BE COPIED

ST-NICOLAS | LÉVIS QC CANADA

~~Helitowcart (Vanair Inc.)~~  
St-Nicolas, Levis, QC, Canada  
[www.helitowcart.com](http://www.helitowcart.com)

HELI TO <del>W</del> CART AND RAILING CO. LTD. DISTRIBUTED WITHOUT AUTHORIZATION		St-Nicolas, Levis, Qc, Canada www.helitowcart.com	
DRAFTED BY: G. LAPOLINTE	DATE: 2006-04-24	DEFINITION BEARPAW PAD	
CHECKED BY:	DATE:		
APPROVED TCCG BY: M. ZGELA	DATE: 2006-04-24	DRAWING NUMBER: 314-0001-01	
IF NOT SPECIFIED GENERAL TOLERANCE		UNITS: INCH	REV: C
+0.000 -0.030		SIZE: A	
+0.000 -0.020		SCALE: N/A	9-FEET:
+0.000 -0.020			1 OF 3

REV	DESCRIPTION	REVISION
A	ISSUE FOR PRODUCTION	
B	ADDITION OF STREAMLINE PAD CONFIGURATION	
C	MODIFIED ENGRAVING, CHANGED ZONES FOR DAMAGE TOLERANCE	

2

CHANG. TOC  
CARTRIDGE  
?

## Nathalie Barbeau

**From:** Nathalie Barbeau <nbarbeau@helitowcart.com>  
**Sent:** 26 April 2016 16:18  
**To:** 'Renaud Berthelot-Richer'  
**Subject:** FW: 3D pour estimer les coûts

Mrs Nathalie Barbeau  
VP Commercial Affairs

**Helitowcart** (Vanair inc)  
[nbarbeau@helitowcart.com](mailto:nbarbeau@helitowcart.com)  
[info@helitowcart.com](mailto:info@helitowcart.com)  
[www.helitowcart.com](http://www.helitowcart.com)

Tel: +1.418.561.4512 877A Alphonse-Desrochers  
Fax: +1.418.836.4575 St-Nicolas, Levis, Qc  
Canada, G7A 5K6

**From:** Chirstian Beaulieu [mailto:cbeaulieu@cnc-spec.com]  
**Sent:** 26 April 2016 15:29  
**To:** 'Nathalie Barbeau' <nbarbeau@helitowcart.com>  
**Subject:** RE: 3D pour estimer les coûts

Bonjour Nathalie,

Suite à la discussion avec Renaud, j'ai réalisé qu'il y'a une divergence entre les deux familles de Bears Paws. Le 350 ont une tolérance pour deux décimales x.xx de +-0.030" et les R-44 pour deux décimales x.xx de +-0.010". Je crois qu'une tolérance uniformisée pour les deux modèles devrait être de +-0.010" pour les entraxes de fixation et de +-0.030 pour le reste.

Donc x.xxx=+-0.010 pour les entraxes de fixation et x.xx=+-0.030" pour le reste des cotes qui ne sont pas critique.

Merci.

Christian Beaulieu  
CNC-SPÉC Inc.  
7258 Blvd. Ste-Anne  
Château-Richer, QC  
G0A 1N0  
Tel: 418-824-4248  
Telec: 418-824-4249  
Cell: 418-554-4134  
[cbeaulieu@cnc-spec.com](mailto:cbeaulieu@cnc-spec.com)



De : Nathalie Barbeau [ma  
Envoyé : Friday, April 22, 2

① CHANG.  
TOL. GARTOUCHE  
?  
Sousmis à Renaud  
et adressé par cette msg

À : 'Chirstian Beaulieu' <[cbeaulieu@cnc-spec.com](mailto:cbeaulieu@cnc-spec.com)>

Objet : FW: 3D pour estimer les coûts

Christian,  
Je t'appelle

Mrs Nathalie Barbeau  
VP Commercial Affairs

**Helitowcart** (Vanair inc)  
[nbarbeau@helitowcart.com](mailto:nbarbeau@helitowcart.com)  
[info@helitowcart.com](mailto:info@helitowcart.com)  
[www.helitowcart.com](http://www.helitowcart.com)

Tel: +1.418.561.4512      877A Alphonse-Desrochers  
Fax: +1.418.836.4575      St-Nicolas, Levis, Qc  
                                    Canada, G7A 5K6

---

**From:** Renaud Berthelot-Richer [<mailto:renaudb@ats-ast.com>]

**Sent:** 22 April 2016 14:09

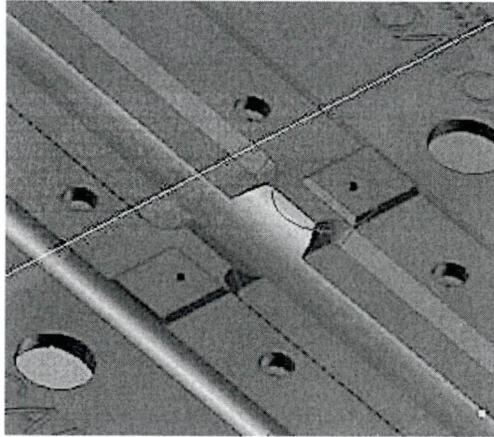
**To:** Nathalie Barbeau <[nbarbeau@helitowcart.com](mailto:nbarbeau@helitowcart.com)>

**Subject:** 3D pour estimer les coûts

Bonjour Nathalie,

Tu trouveras en pièce jointe les deux concepts à comparer pour les prix. À noter qu'un chanfrein est modifié sur les ponts du centre pour les deux concepts.

Renaud





**Bon Commande**

**Supplier:** Aviatech  
**Contact:** Renaud Berthelot-Richer  
**Coordinates:** 2595 Rue St-Olivier  
 Trois-Rivières, Qc, G9A 4G1

[renaudb@ats-ast.com](mailto:renaudb@ats-ast.com)  
 819-601-8049 ext 211

P.O. No: nb - 160203- 03b

(initials-ymmmdd-sequence)

Ship to: Helitowcart

Nathalie Barbeau 418 561 4512

**Instructions:**

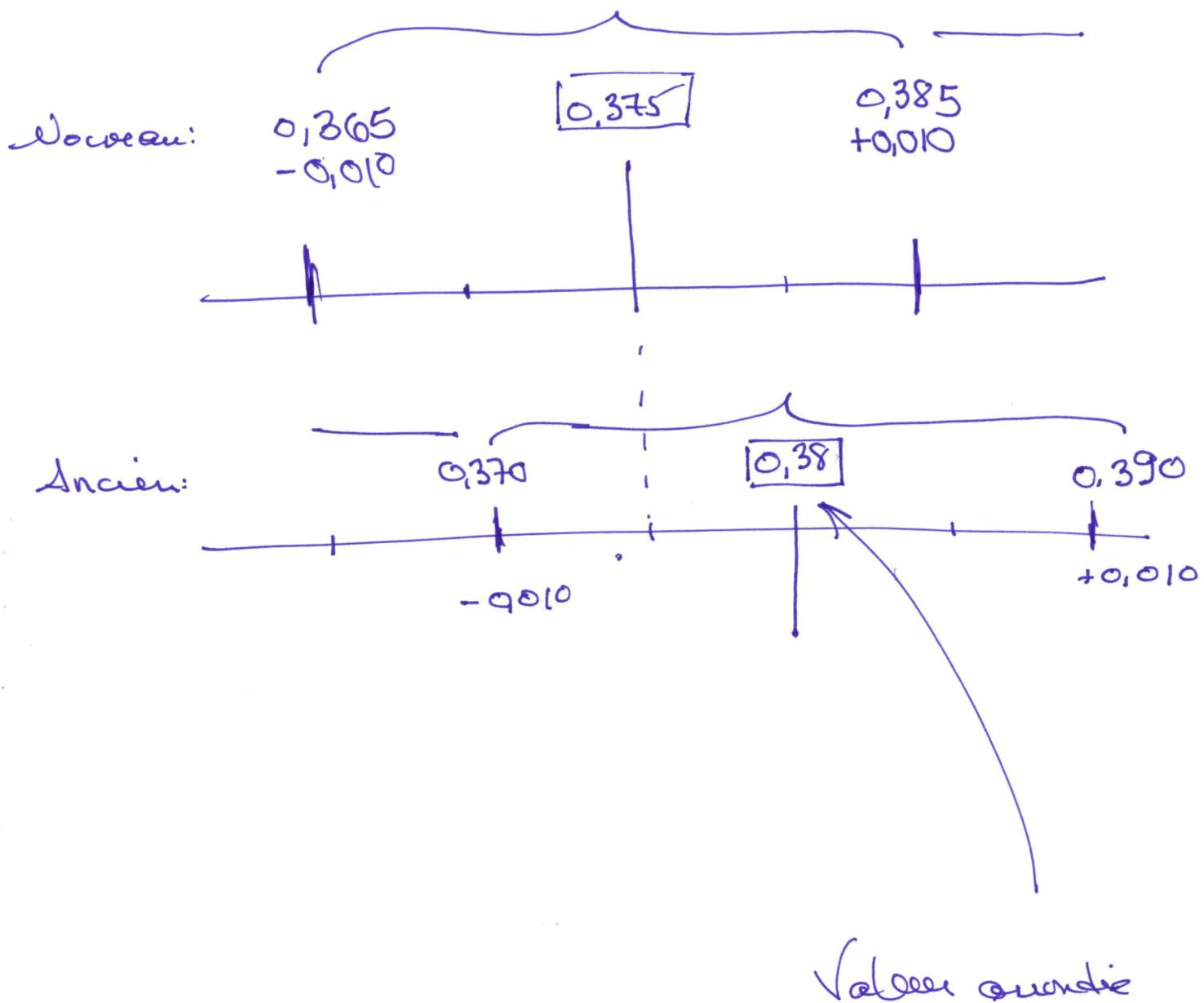
Total Qty			Description	Rev.	Due Date	Currency:	
						Unit Price	Amount
			<u>Ref Votre soumission no X2016-02 Rev NC</u>				
			<u>EO pour modification de relief de Bearpaws Pads Modèle BP350 (ajouter dégagements continus pour têtes de boulons de wearshoe Dart)</u>				
1			Conception de la modification (déagement pour les têtes de boulons)			\$450.00	\$450.00
1			Mise à jour du dessin d'assemblage et du dessin du pad			\$545.00	\$545.00
1			Préparation du document d'ingénierie (Technical memo) pour justifier l'aspect structurel de modif & maj de la MDL			\$795.00	\$795.00
1			Maj des dessins Streamline en annexe des instructions d'installation (installation, cracks & wear zones)			\$150.00	\$150.00
			Addenda "a"				
1			Temps suppl. En conception et en rech d'info auprès du client			\$720.00	\$720.00
1			Temps suppl. De mise en plan			\$285.00	\$285.00
1			Temps suppl. En structure			\$340.00	\$340.00
1			Implication suppl du DAR			\$300.00	\$300.00
			Notes:				
			Nathalie fournit les données fournies par Simon Ebacher de Canadian Helicopter qui nous informe de la position des boulons divers en fonction des différentes générations de Skids de Dart wear shoes.				
			Nathalie fournit un croquis de suggestion de dégagements continus en longeur afin d'éviter de les faire de petite taille pour chaque boulon.				
			Requis: Fin mars-début avril 2016				
1			Ajustement des Tolérances de fabrication des Pads de BP44 pour refléter le même principe que le pad de BP350			\$190.00	\$190.00

**Issued by:** Nathalie Barbeau  
**Date:** 2016 04 27

Subtotal \$3,775.00  
 Total  
 TPS  
 TVQ  
 Shipping  
 Total

Helitowcart (Vanair inc.): 877A Alphonse-Desrochers, St-Nicolas, Qc, Canada, G7A 5K6  
 tel: 418-561-4512, Fax: 418-836-4575, [info@helitowcart.com](mailto:info@helitowcart.com)

ex:



# Paleo Date Squares

Yield: Makes 9-16 squares  
NF based on 1 of 16 squares

## INGREDIENTS

### DATE MIXTURE

- 500g pitted dates
- The juice and zest of 1 orange (about  $\frac{1}{2}$  cup)
- The juice of 1 lime (2 tbsp)
- 1 cup water
- $\frac{1}{2}$  tsp vanilla powder
- $\frac{1}{2}$  tsp baking soda
- $\frac{1}{4}$  tsp Himalayan salt

### CRISP (TOP AND BOTTOM LAYERS)

- $1\frac{1}{2}$  cup sliced blanched almonds
- 1 cup toasted unsweetened coconut flakes
- $1\frac{1}{4}$  cup coconut flour
- $\frac{1}{4}$  tsp baking soda
- Pinch cream of tartar
- $\frac{1}{4}$  tsp Himalayan salt
- $\frac{3}{4}$  cup coconut oil, chilled

## INSTRUCTIONS

1. Combine all the ingredients for the date mixture in a medium saucepan and cook over medium heat for about 5 minutes, until the liquid has fully evaporated and you're left with a creamy, mushy and smooth, heavenly date mixture. Set aside to cool.
2. In the bowl of your food processor, combine all the ingredients for the top and bottom layers.
3. Process on pulse until the mixture is well combined, no more. Refrigerate this crisp mixture for 15-20 minutes.
4. Preheat the oven to 350F.
5. Press a little more than half the mixture at the bottom of an 8" square baking pan that's been lined with parchment paper. Place that in the oven and blind bake for 8-10 minutes until the crust starts to turn slightly golden brown.
6. Remove from the oven, spread the date mixture as evenly as you can over the bottom layer then loosely crumble the rest of the crisp mixture right on top.
7. Bake in a 350F oven for 22-25 minutes, until the top gets nice and golden.
8. Allow to cool completely before cutting into squares.

<http://thehealthyfoodie.com/paleo-date-squares/>

Recipe by Sonia! The Healthy Foodie | thehealthyfoodie.com

## Nathalie Barbeau

---

**From:** Nathalie Barbeau <nbarbeau@helitowcart.com>  
**Sent:** Friday, May 27, 2016 4:59 PM  
**To:** 'Renaud Berthelot-Richer'  
**Subject:** RE: BP44 3 Elements en suspens

Dans ce cas là ignore la demande pour les flotteurs et on le fera une autre fois.

Merci de ton aide!

Mrs Nathalie Barbeau  
VP Commercial Affairs

**Helitowcart** (Vanair inc)

[nbarbeau@helitowcart.com](mailto:nbarbeau@helitowcart.com) Tel: +1.418.561.4512 877A Alphonse-Desrochers  
[info@helitowcart.com](mailto:info@helitowcart.com) Fax: +1.418.836.4575 St-Nicolas, Levis, Qc  
[www.helitowcart.com](http://www.helitowcart.com) Canada, G7A 5K6

---

**From:** Renaud Berthelot-Richer [mailto:[renaudb@ats-ast.com](mailto:renaudb@ats-ast.com)]  
**Sent:** 27 May 2016 15:46  
**To:** Nathalie Barbeau <[nbarbeau@helitowcart.com](mailto:nbarbeau@helitowcart.com)>  
**Subject:** RE: BP44 3 Elements en suspens

Bonjour Nathalie,

Désolé pour le délais de ma réponse, je participais à des essais sur un avion. Pour les éléments 1 et 2 de ton pdf, c'est réglé avec le nouveau cartouche. Pour le troisième, il faudrait que je mette du temps là-dessus pour voir s'il est possible de les installer avec des flotteurs, alors je proposerais de faire un projet séparé.

Renaud

---

**De :** Nathalie Barbeau [mailto:[nbarbeau@helitowcart.com](mailto:nbarbeau@helitowcart.com)]

**Envoyé :** 2016/05/17 09:32

**À :** Renaud Berthelot-Richer

**Objet :** BP44 3 Elements en suspens

Renaud,

Hier soir on s'est entendus de faire juste la modif de la cartouche du dessin de pad de BP44.

J'ai des notes dans mes affaires de 3 éléments pas clairs pour les BP44. Je les ai nommés 1,2,3 dans le document que je viens de t'attacher.

Pourrais-tu me confirmer pour les items 1 et 2 qu'en changeant la cartouche du dessin de pad on règle ces deux items?

Pour le dernier item no 3 : C'est une note que j'ai retrouvé à mes dossiers. Est-ce que ce serait simple de rajouter qu'on pourrait fitter avec des flotteurs ou ce serait l'objet d'un gros travail?

Je mets toutes mes notes à jour le plus possible et je tente de faire en sorte qu'il ne me reste rien en suspens dans mes to do!

Merci de me revenir avec cela quand tu auras le temps de te remettre à notre dossier la sem. Prochaine,

Merci Renaud,

Mrs Nathalie Barbeau  
VP Commercial Affairs

**Helitowcart** (Vanair inc)  
nbarbeau@helitowcart.com  
info@helitowcart.com  
www.helitowcart.com

Tel: +1.418.561.4512 877A Alphonse-Desrochers  
Fax: +1.418.836.4575 St-Nicolas, Levis, Qc  
Canada, G7A 5K6



www.helitowcart.com  
By Vanair inc.

## Bon Commande

Supplier:	Aviatech
Contact:	Renaud Berthelot-Richer
Coordinates:	2595 Rue St-Olivier Trois-Rivières, Qc, G9A 4G1

P.O. No:	nb - 160203- 03b (initials-ymmd-sequence)
Ship to:	Helitowcart Nathalie Barbeau 418 561 4512

[renaudb@ats-ast.com](mailto:renaudb@ats-ast.com)

819-601-8049 ext 211

### Instructions:

Total Qty			Description	Rev.	Due Date	Currency:
						Unit Price
			<i>Ref Votre soumission no X2016-02 Rev NC</i>			
			<b>EO pour modification de relief de Bearpaws Pads Modèle BP350 (ajouter dégagements continus pour têtes de boulons de wearshoe Dart)</b>			
1			Conception de la modification (dégagement pour les têtes de boulons)			\$450.00
1			Mise à jour du dessin d'assemblage et du dessin du pad			\$545.00
1			Préparation du document d'ingénierie (Technical memo) pour justifier l'aspect structurel de modif & maj de la MDL			\$795.00
1			Maj des dessins Streamline en annexe des instructions d'installation (installation, cracks & wear zones)			\$150.00
			<b>Addenda "a"</b>			
1			Temps suppl. En conception et en rech d'info auprès du client			\$720.00
1			Temps suppl. De mise en plan			\$285.00
1			Temps suppl. En structure			\$340.00
1			Implication suppl du DAR			\$300.00
			<b>Notes:</b>			
			Nathalie fournit les données fournies par Simon Ebacher de Canadian Helicopter qui nous informe de la position des boulons divers en fonction des différentes générations de Skids de Dart wear shoes.			
			Nathalie fournit un croquis de suggestion de dégagements continus en longeur afin d'éviter de les faire de petite taille pour chaque boulon.			
			Requis: Fin mars-début avril 2016			
1			<b>Ajustement des Tolérances de fabrication des Pads de BP44 pour refléter le même principe que le pad de BP350</b>			\$190.00

Issued by:	Nathalie Barbeau
Date:	2016 04 27

Subtotal	\$3,775.00
Total	
TPS	
TVQ	
Shipping	
Total	

Helitowcart (Vanair inc.): 877A Alphonse-Desrochers, St-Nicolas, Qc, Canada, G7A 5K6  
tel: 418-561-4512, Fax: 418-836-4575, [info@helitowcart.com](mailto:info@helitowcart.com)